

REMARKS/ARGUMENTS

The drawings were objected to. Claims 13 to 26, 28, 29 and 31 were rejected under 35 U.S.C. 102(b) as being anticipated by Machida et al. (U.S. Patent 6,375,695). Claims 29 and 30 were rejected under 35 U.S.C. 102(b) as being anticipated by Kasai et al. (U.S. Patent 5,634,952). Claim 27 was rejected under 35 U.S.C. 103(a) as being unpatentable over Machida et al. in view of Cooper et al. (U.S. Patent 4,902,487).

Claims 13, 19 to 21, 23, 25, 26, 29 and 31 are hereby amended to more particularly and distinctly claim the invention.

Reconsideration of the application is respectfully requested.

Objections to the drawings

The drawings were objected to under 37 CFR 1.81(c). This application was filed as a national phase application of International Patent Application No. PCT/EP2004/010334. The publication of this application includes two sheets of drawings, including Figs. 1 to 3, which are the only figures in this application. As a result, Applicants do not understand the statement that “[a] drawing figure has been accepted in the instant application as part of the International Application abstract filed on March 15, 2006.” Clarification of this objection is respectfully requested, or it should be withdrawn.

Rejections under 35 U.S.C. 102(b): Machida et al.

Claims 13 to 26, 28, 29 and 31 were rejected under 35 U.S.C. 102(b) as being anticipated by Machida et al. (U.S. Patent 6,375,695).

Machida et al. discloses an apparatus for processing exhaust gases that includes two filters 2, 4, a counter air supply portion 3, an exhaust gas supply pipe 7, an exhaust gas discharge pipe 8, a transport pipe 5, and a process portion 6. (Fig. 1, col. 4, lines 47 to 53).

Claim 13, as amended, recites “[a] method for operating a filter, the method comprising: forcibly passing a stream of a fluid through a filter wall of the filter from a raw gas side to a clean gas side of the filter so as to separate out particles and particle constituents from the

stream, wherein the particles and particle constituents are collected by the filter wall on the raw gas side; and

performing a regeneration process on the filter during operation of the filter to remove particles from the filter wall and moving particle constituents not removed from the raw gas side of the filter by the regeneration process to a receiving device disposed on the raw gas side.”

It is respectfully submitted that Machida et al. does not disclose the step of “performing a regeneration process on the filter during operation of the filter to remove particles from the filter wall and moving particle constituents not removed from the raw gas side of the filter by the regeneration process to a receiving device disposed on the raw gas side” as now recited in claim 13. Machida et al. merely involves counterflowing air to remove fine particles from filters 2, 4 and distribute the fine particles into process portion 6. (Col. 7, lines 14 to 17). Thus, Machida et al. does not disclose, in particular, the specific claim requirement of “moving particle constituents not removed from the raw gas side of the filter by the regeneration process to a receiving device disposed on the raw gas side” of claim 13. Since Machida et al. does not disclose each step of claim 13, it cannot anticipate claim 13 or any claim dependent thereon.

Withdrawal of the rejection under 35 U.S.C. 102(b) of claim 13, and claims 14 to 18, 20 to 26 and 28 depending therefrom, is respectfully requested.

Claim 19, as amended, recites “[a] method for operating a filter, the method comprising:
forcibly passing a stream of a fluid through a filter wall of the filter from a raw gas side to a clean gas side of the filter so as to separate out particles and particle constituents from the stream, wherein the particles and particle constituents are collected on the raw gas side; and
performing a regeneration process on the filter during operation of the filter to remove particles from the filter wall and removing particle constituents not removed from the raw gas side of the filter by the regeneration process and disposing of the removed particle constituents, wherein the filter walls includes a plurality of channels on the raw gas side, each channel closed by a closure wall configured to be partially opened to enable the disposing of the particle constituents.”

It is respectfully submitted that Machida et al. does not disclose the step of “performing a regeneration process on the filter during operation of the filter to remove particles from the filter wall and removing particle constituents not removed from the raw gas side of the filter by the regeneration process and disposing of the removed particle constituents” of claim 19. Machida et al. merely involves counterflowing air to remove fine particles from filters 2, 4 and distribute the fine particles into process portion 6. (Col. 7, lines 14 to 17). Thus, Machida et al. does not disclose the specific requirement of “removing particle constituents not removed from the raw gas side of the filter by the regeneration process and disposing of the removed particle constituents” of claim 19. Since Machida et al. does not disclose each step of claim 19, it cannot anticipate claim 19 or any claim dependent thereon.

Withdrawal of the rejection under 35 U.S.C. 102(b) of claim 19 is respectfully requested.

Claim 29, as amended, recites “[a] filter comprising:

a filter wall dividing a clean gas side and a raw gas side of the filter and configured to separate out particles and particle constituents from a stream of fluid passing through the wall and to enable the particles to be removed in a regeneration process; and

a receiving device configured to receive a flow of the fluid from the raw gas side of the filter therethrough and to receive and hold the particle constituents, wherein the receiving device is connectable on the raw gas side of the filter wall.”

It is respectfully submitted that Machida et al. does not disclose the limitation of “a receiving device configured to receive a flow of the fluid from the raw gas side of the filter therethrough and to receive and hold the particle constituents” as now recited in claim 29. Machida et al. includes a process portion 6 that receives counter air flowing from discharge valves 304, 305 in counter rooms 210 and thus does not teach or disclose this limitation of claim 29. Since Machida et al. does not disclose each element of claim 29, it cannot anticipate claim 29 or any claim dependent thereon.

Withdrawal of the rejection under 35 U.S.C. 102(b) of claim 29 is respectfully requested.

Claim 31, as amended, recites “[a] filter comprising:

a filter wall dividing a clean gas side and a raw gas side of the filter and configured to separate out particles and particle constituents from a stream of fluid passing through the filter wall and to enable the particles to be removed in a regeneration process, wherein the filter wall includes a plurality of channels on the raw gas side, each channel being closed by a closure wall configured to be at least partially opened so as to enable disposal of the particle constituents.”

It is respectfully submitted that Machida et al. does not disclose the claimed filter wall which must have “a plurality of channels on the raw gas side, each channel being closed by a closure wall configured to be at least partially opened so as to enable disposal of the particle constituents” as recited in claim 31. Filter main body 20 in Machida et al. does not include any channels that are “closed by a closure wall configured to be at least partially opened so as to enable disposal of the particle constituents” as required by claim 31. Transport pipe 5 of Machida et al., which the Examiner asserts corresponds to the “plurality of channels” of claim 31, is not included in filter main body 20. Thus, Machida et al. does not meet this limitation of claim 31 and does not anticipate claim 31.

Withdrawal of the rejection under 35 U.S.C. 102(b) of claim 31 is respectfully requested.

Rejections under 35 U.S.C. 102(b): Kasai et al.

Claims 29 and 30 were rejected under 35 U.S.C. 102(b) as being anticipated by Kasai et al. (U.S. Patent 5,634,952).

Kasai et al. discloses “an exhaust gas filter for collecting fine particles contained in exhaust gases discharged from internal combustion engines, characterized by a Valley Level as defined hereinafter of a surface of the filter of not more than 20%, a porosity of the filter of between 40% and 55%, and an average pore diameter of the filter of between 5 .mu.m and 50 .mu.m.” (Col. 2, lines 4 to 11).

Claim 29, as amended, recites “[a] filter comprising:

a filter wall dividing a clean gas side and a raw gas side of the filter and configured to separate out particles and particle constituents from a stream of fluid passing through the wall and to enable the particles to be removed in a regeneration process; and

a receiving device configured to receive a flow of the fluid from the raw gas side of the filter therethrough and to receive and hold the particle constituents, wherein the receiving device is connectable on the raw gas side of the filter wall.”

It is respectfully submitted that Kasai et al. does not disclose the claim requirement of “a receiving device configured to receive a flow of the fluid from the raw gas side of the filter therethrough and to receive and hold the particle constituents” (emphasis added) as now recited in claim 29. Kasai et al. includes a collector tank 6 that receives blowback air flowing from solenoid valves 14 and thus does not teach or disclose this limitation of claim 29 because the air in Kasai et al. flows in the opposite direction. Kasai et al. thus does not anticipate claim 29.

Withdrawal of the rejection under 35 U.S.C. 102(b) of claim 29, and claim 30 depending therefrom, is respectfully requested.

Rejection under 35 U.S.C. 103(a): Machida et al. in view of Cooper et al.

Claim 27 was rejected under 35 U.S.C. 103(a) as being unpatentable over Machida et al. in view of Cooper et al. (U.S. Patent 4,902,487).

Machida et al. is described above.

Cooper et al. discloses a process of treating diesel exhaust gas. The method involves “contacting particulate entrapped on the filter with NO₂ gas so as to caused combustion of the particulate and its consequent removal from the filter.” (Col. 1, lines 44 to 47).

Claim 27 recites “[t]he method as recited in claim 13, wherein the regeneration process includes feeding nitrogen dioxide into the filter.”

It is respectfully submitted that one of skill in the art would not have had any reason to have contacted the fine particles in filters 2, 4 of Fig. 1 of Machida et al. with nitrogen dioxide to remove the fine particles from filters 2, 4 because Machida et al. specifically discloses that the fine particles are removed with counter air.

Claim 27 is dependent on claim 13. For all of the reasons discussed above with respect to claim 13 and for this additional reason, withdrawal of the rejection under 35 U.S.C. 103(a) of claim 27 is respectfully requested.

CONCLUSION

The present application is respectfully submitted as being in condition for allowance and applicants respectfully request such action.

Respectfully submitted,

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Dated: February 26, 2009

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